

REMARKS

Status of the Claims

Claims 1-10 are pending in the application. Claim 1 is currently amended. Reconsideration and allowance of all of the pending claims is respectfully requested.

This amendment does not add new matter to the application. The amendment to the inorganic particle size is supported at page 9, line 22, of the specification. The amendment to the polymer particle size is supported by the Examples of the present specification. The amendment to the content of the polymer particles is supported at page 13, line 8 of the specification. The amendment to the content of the inorganic particles is supported at page 13, lines 11-12 of the specification. Accordingly, no new matter is added and entry of this amendment is respectfully requested.

Claim Rejections – 35 U.S.C. §103

Claims 1-10 are rejected under 35 U.S.C. §103(a) as unpatentable over EP '501 (EP 1 020 501) alone, or in view of Liu US '795 and/or Ina US '803, and further in view of Taira '216 (U.S. 6,569,216). For the reasons given below, this rejection is respectfully traversed and reconsideration and withdrawal of the same is respectfully requested.

1. Legal Standard

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the

knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations.

The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, not in applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

“There are three possible sources for a motivation to combine references: the nature of the problem to be solved, the teachings of the prior art, and the knowledge of persons of ordinary skill in the art.” *In re Rouffet*, 149 F.3d 1350, 1357, 47 USPQ2d 1453, 1457-58 (Fed. Cir. 1998) (The combination of the references taught every element of the claimed invention, however without a motivation to combine, a rejection based on a prima facie case of obviousness was held improper.). The level of skill in the art cannot be relied upon to provide the suggestion to combine references. *Al-Site Corp. v. VSI Int'l Inc.*, 174 F.3d 1308, 50 USPQ2d 1161 (Fed. Cir. 1999).

“In determining the propriety of the Patent Office case for obviousness in the first instance, it is necessary to ascertain whether or not the reference teachings would appear to be sufficient for one of ordinary skill in the relevant art having the reference before him to make the proposed substitution, combination, or other modification.” *In re Linter*, 458 F.2d 1013, 1016, 173 USPQ 560, 562 (CCPA 1972).

Obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or

motivation to do so found either explicitly or implicitly in the references themselves or in the knowledge generally available to one of ordinary skill in the art. "The test for an implicit showing is what the combined teachings, knowledge of one of ordinary skill in the art, and the nature of the problem to be solved as a whole would have suggested to those of ordinary skill in the art." *In re Kotzab*, 217 F.3d 1365, 1370, 55 USPQ2d 1313, 1317 (Fed. Cir. 2000). See also *In re Lee*, 277 F.3d 1338, 1342-44, 61 USPQ2d 1430, 1433-34 (Fed. Cir. 2002) (discussing the importance of relying on objective evidence and making specific factual findings with respect to the motivation to combine references); *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988); *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992).

The Supreme Court of the United States has recently held that the teaching, suggestion, motivation test is a valid test for obviousness, but one which cannot be too rigidly applied. See *KSR Int'l Co. v. Teleflex Inc.*, No. 04-1350, slip op. at 11 (U.S. April 30, 2007). The Supreme Court in *KSR* reaffirmed the Graham factors in the determination of obviousness under 35 U.S.C. § 103(a). The four factual inquiries under Graham are:

- (a) determining the scope and contents of the prior art;
- (b) ascertaining the differences between the prior art and the claims in issue;
- (c) resolving the level of ordinary skill in the pertinent art; and
- (d) evaluating evidence of secondary consideration.

Graham v. John Deere, 383 U.S. 1, 17-18, 148 USPQ 459, 467 (1966).

The Court in *KSR* did not totally reject the use of "teaching, suggestion, or motivation" as a factor in the obviousness analysis. Rather, the Court recognized that a showing of "teaching, suggestion, or motivation" to combine the prior art to meet the claimed subject matter could

provide a helpful insight in determining whether the claimed subject matter is obvious under 35 U.S.C. § 103(a).

Even so, the Court in KSR rejected a rigid application of the "teaching, suggestion, or motivation" (TSM) test, which required a showing of some teaching, suggestion, or motivation in the prior art that would lead one of ordinary skill in the art to combine the prior art elements in the manner claimed in the application or patent before holding the claimed subject matter to be obvious.

The Present Invention

The polishing composition of the present invention provides a composition that displays an improved polishing rate using inorganic particles having a small particle size in the range of 26-95 nm. Generally, the polishing rate is lowered by using inorganic particles with a small particle size. However, in the present invention inorganic and polymer particles satisfying formula 1 of claim 1 are used, and produce a composition with an improved polishing rate even though the particle size of the inorganic particles is small.

Distinctions over the cited art

In order to establish a *prima facie* case of obviousness, the Examiner must articulate a finding that the prior art included each element claimed. See MPEP §2143. Applicants respectfully submit that the prior art does not disclose each element of the present invention. The prior art does not disclose polishing compositions with the presently claimed inorganic particle sizes, and that also satisfies Formula 1 of claim 1. Accordingly, applicants submit that a *prima*

facie case of obviousness is not established and this rejection must be withdrawn.

Applicants note that EP '501 describes that the polishing rate is lowered by using inorganic particles having a particle size of less than 0.1 μm . See EP '501, paragraphs [0057], [0059], and Comparative Example 2D. However, in the present invention, inorganic particles and polymer particles satisfying Formula 1 are used, producing an improved polishing rate even though the particle size of the inorganic particles is small.

Applicants further submit that even if a hypothetical case of *prima facie* obviousness were assumed to exist, the present specification demonstrates unexpected results for the polishing rate which fully rebuts any hypothetical case of obviousness. That the polishing rate is unexpectedly improved for the presently claimed invention is demonstrated by Figure 2 and Tables 2 and 3 of the present specification. The Examiner's attention is directed to a comparison between Example 11 (polishing rate: 600) with Comparative Example 8 (polishing rate: 180); and Example 11 (polishing rate: 600) with Comparative Example 10 (polishing rate: 130); and Example 5 (polishing rate: 650) with Comparative Example 7 (polishing rate: 140).

The data shows that when a comparison is made between cases where either the inorganic particles or the polymer particles have the same particle size, the polishing rate is unexpectedly improved when Formula 1 of claim 1 is satisfied. In particular, the Examiner's attention is especially directed to the comparison between Example 11 and Comparative Example 10, since C_p/C_i is also the same for these cases as well.

In EP '501 it is described at paragraph [0057] that the polishing rate tends to be particularly low when the Si mean particle size is less than 0.1 μm . Also, at paragraph [0059] of EP '501, it is described that if the mean particle size is less than 0.1 μm it may not be possible to

obtain an aqueous dispersion composition with a sufficient polishing rate. In addition, Comparative Example 2D of EP '501 shows that the polishing rate is greatly lowered by the use of 0.01-0.02 μm silica sol.

Accordingly, EP '501 teaches away from the present invention by disclosing that the polishing rate is lowered by using inorganic particles having a small particle size of less than 0.1 μm . EP '501 thus teaches one of skill in the art to not use such small inorganic particles. Thus, the teachings of EP '501 are the opposite of the present invention and cannot render the present invention obvious. Applicants again emphasize that the present invention includes particle sizes for the inorganic particles that are very small, i.e., 26-95 nm, but the polishing rate is nevertheless improved if Formula 1 is satisfied.

Applicants respectfully submit that the present invention is demonstrated as patentable over the prior art. An early reconsideration and notice of Allowance indicating that claims 1-10 are patentable is respectfully requested.

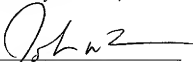
CONCLUSION

Should there be any outstanding matters that need to be resolved in the present Application, the Examiner is respectfully requested to contact the undersigned at the telephone number below, to conduct an interview in an effort to expedite prosecution in connection with the present Application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

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Respectfully submitted,

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